

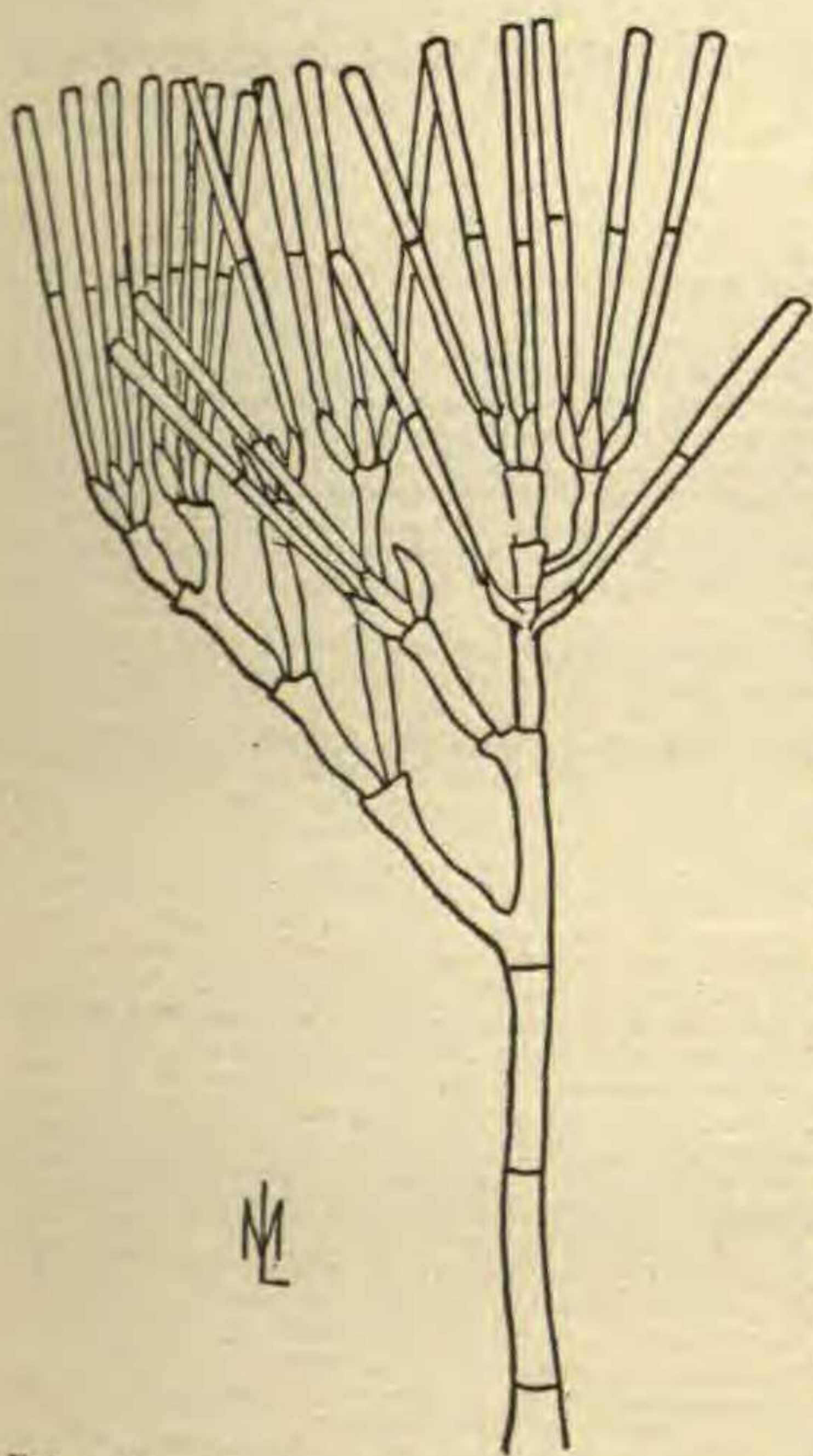
leaf axil seen from above. *c*, a section of the bud to show the  $\frac{1}{2}$  phyllotaxy. 10. *Viburnum molle* Mx. 11. *Nyssa multiflora* Wang. 12. *Menispermum Canadense* L. 13. *Spiræa opulifolia* L. 14. *Liriodendron Tulipifera* L. *b*, one of the inner stipular sheaths of the winter bud showing a young leaf attached. 15. *Rhus glabra* L. 16. *Rhus aromatica* Ait. 17. *Fagus ferruginea* Ait. *b*, a bud with several scales removed. 18. *Negundo aceroides* Moench. 19. *Euonymus atropurpureus* Jacq.

† Plate XIII.—20. *Juglans regia* L. Scales of terminal bud less leafy than in other species. 21. *Juglans nigra* L. Buds close to the axils. 22. *Juglans cinerea* L. Buds usually a short distance above the axil. *b*. A scale of terminal bud. 23. *Pterocarya Caucasica* Kenell. Peculiar leaf scar. 24. *Carya amara* Nuttall. Slender buds near the axil. In *Carya* the figures made by the fibrovascular bundles are less distinct than in *Juglans* and often less distinct than here figured. 25. *Carya olivaeformis* Nuttall. Upper of the superposed buds often remote from the axil. 26. *Carya porcina*. This and the following species are forms intermediate between the two preceding species with more slender buds and the three following with more oval buds. 27. *Carya microcarpa* Nutt. 28. *Carya tomentosa* Nutt. To be distinguished from the next species by its more or less tomentose bark. A few scales have fallen off from the bud. 29. *Carya alba* Nutt. After a few scales have fallen off from the bud. 30. *Carya sulcata* Nuttall. Buds often clustered at the tip, outer scales with a close appressed pubescence; color, purplish brown, grading to greenish brown. 31. *Gymnocladus Canadensis* Lam. 32. *Fraxinus excelsior* L. From the Trocadero Gardens at Paris. Two buds in one axil. A single bud in the opposite axil, not seen. It is not a case of superposed buds, nor of one bud in the axil of the outer scale of the other, but a case of *dédoublement*. It is the opposite of that shown in fig. 3, *b*. 33. *Lindera Benzoin* Meissner. 34. *Fraxinus*. Species unknown, but both of them believed to belong to *Fraxinus Americana*. To show variation of scars, which is often great in species of this genus. 35. *Cornus florida* Linn. *a*, flower bud. Notice setting of buds in the tip of the stem; also in *b*, and compare with next species. 36. *Cornus paniculata* L'Her. *a*, flower bud. 37. *Sambucus Canadensis* L. The lower of the superposed buds, in a longitudinal section of the stem is seen to have its fibrovascular bundles connected at the base with those of the larger upper bud. These fibrovascular bundles of the lower bud are bent *backward* from the above mentioned point of junction, in order to reach the smaller bud; this has not been noticed in the case of the other superposed buds examined, where the fibrovascular bundles are all directed forward.

## Two new genera of Hyphomycetes.

A. P. MORGAN.

The following genera of the Mucedineæ or white molds I have had so long and they appear so distinct that I may now venture upon their publication. The first is the only genus of the Didymosporæ in Saccardo's system possessing cylindrical spores. The second by its remarkable spores represents a section Dictyosporæ, which is not represented in the Mucedineæ of Saccardo's volume.



**Cyndrocladium** gen. nov.—Sterile hyphæ creeping, branched; fertile hyphæ erect, forked or trichotomously branched, the sporophores in pairs or threes at the extremities of the branchlets and cymosely arranged; spores solitary, cylindric, 1-septate, hyaline.

**C. scoparium** n. sp.—Efused, thin, flocculose, white; sterile hyphæ creeping, slender, indistinct; fertile hyphæ thick, erect, hyaline, septate, cymosely branched above, the sporophores short, disposed in pairs or threes at the extremities of the branchlets, each producing a single spore at the apex; spores cylindric, tapering slightly downward, 1-septate, hyaline, obtuse at each end, 40—50 $\mu$  in length, 4 $\mu$  thick at the apex, and 3 $\mu$  at the base.

Growing on an old pod of *Gleditschia triacanthos*. The sterile hyphæ are abundant enough, but they are fine slender

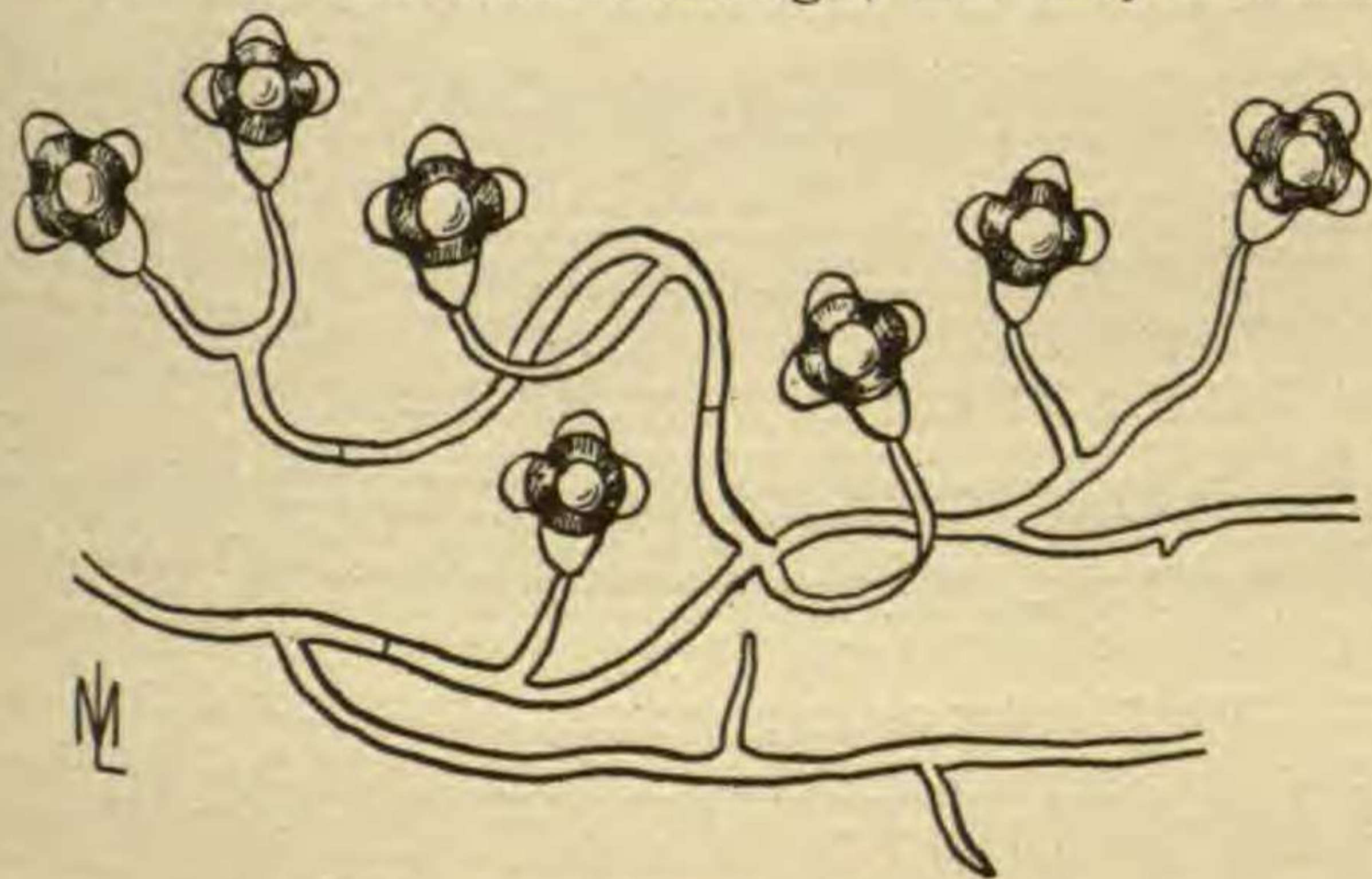


FIG. 2.—*Synthetospora electa* Morgan.

threads creeping close to or beneath the surface; the fertile hyphæ have a simple septate stem 5—7 $\mu$  in thickness and are

dissolved above into a level-topped cyme of branches; their height, exclusive of the spores which easily fall off, is 125—150 $\mu$ .

**Synthetospora** gen. nov.—Hyphæ procumbent, branched, intricate, sending out short lateral fertile branchlets, which produce the spores at the apex; spores lobed, each consisting of a large opaque central cell with several smaller hyaline cells sunk part way into its surface. The genus is a compound Mycogone.

**S. electa** n. sp.—Effused, thin, flocculose, white, becoming yellowish and pulverulent; hyphæ long, creeping, very slender, hyaline, scarcely septate, branched and loosely interwoven; the lateral fertile branchlets abundant, short, ascending, each terminated by a single spore; spores normally 6-lobate composed of a central globose cell, with a smaller spherical cell at the base, another at the apex, and four cells laterally on the circumference; the spores are 20—30  $\mu$  in extent, being usually a little longer from base to apex, the smaller hyaline cells measure 10—12  $\mu$  in diameter and project half way or a little more.

Growing on the hymenial surface of some *Peziza*, presumably *P. semitosta* B. & C. The habit and habitat are that of a Mycogone, but the double spore of the latter is greatly amplified. The hyphæ are quite slender, about 3  $\mu$  in thickness. The hyaline basal cell by which the spore is attached to the thread is sometimes drawn out to nearly conical; the symmetry of the spores is occasionally interfered with by the interposition of a fifth lateral cell.

Preston, O.

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#### BRIEFER ARTICLES.

The chemical composition of the nectar of the Poinsettia.—The nectaries of *Poinsettia pulcherrima* are strongly developed and secrete so abundantly that the nectar drips away from the organs. From some specimens growing in the college green-house, a considerable quantity of the nectar was secured in very pure condition, by means of a fine pointed camels-hair pencil. It was a clear, colorless sirup, very sweet and becoming sticky on drying.

The total amount collected was 3.383 grams which, after standing some weeks over sulphuric acid, was reduced in weight to 2.3353